4425 Combine

JOHN DEERE

TECHNICAL MANUAL

4425 Combine

TM4417 (01JUN89) English

John Deere Werke Zweibrucken
TM4417 (01JUN89)

LITHO IN U.S.A.
ENGLISH

4425 COMBINE TECHNICAL MANUAL TM-4417 (JUN-89)

CONTENTS OF THIS MANUAL IN SECTIONS

CONT-ZI301AE-020589

CONTENTS OF THIS MANUAL IN SECTIONS – CONTINUED

NOTE: All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication.
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CONT-ZI302AE-020589

INTRODUCTION

This manual is part of a total service support program.

FOS MANUALS – REFERENCE

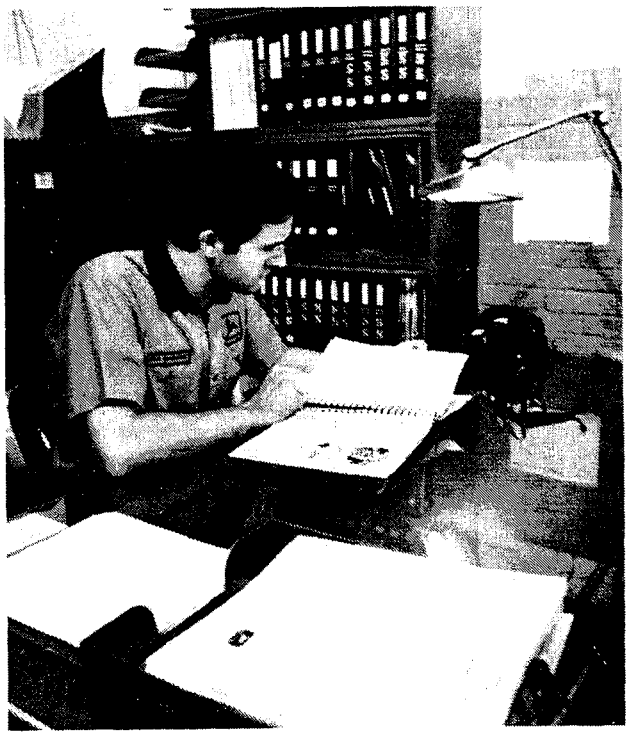
Fundamentals of Service (FOS) Manuals cover basic theory of operation, fundamentals of troubleshooting, general maintenance, basic types of failures and their causes. FOS Manuals are for training new personnel and for reference by experienced technicians.

TECHNICAL MANUALS – MACHINE SERVICE

Technical Manuals are concise service guides for specific machines. Technical Manuals are on-the-job guides containing only the vital information needed by an experienced technician.

COMPONENT MANUALS – COMPONENT SERVICE

Component Technical Manuals are concise service guides for specific components. Component technical manuals are written as stand-alone manuals covering multiple machine applications.



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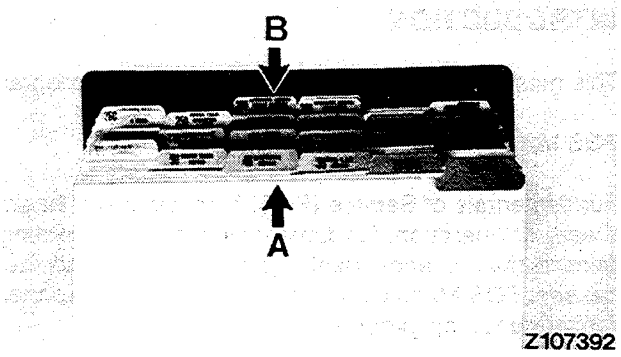
TECHNICAL MANUAL TABS

INTRODUCTION

To fully utilize this manual, you must understand how it is organized. Only two tab colors are used – green and yellow, each representing a different type of information. Spend a minute reading this now and save many minutes of searching later.

A-Green tabs **B-Yellow tabs**



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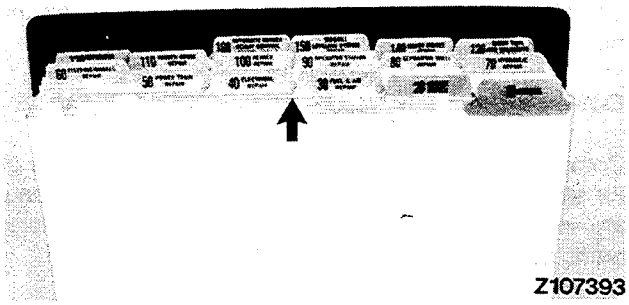
GREEN TAB SECTIONS

The green tab sections are REPAIR sections, telling you how to repair components of the various systems.

Repair of a component includes:
- Removal from machine (if necessary)
- Disassembly
- Inspection
- Replacement of parts
- Assembly
- Adjustment
- Installation on machine (if necessary)

The numbers, used for the repair (green tab) sections, are part of an overall service publication numbering system. The numbers identify the same sections in the parts catalog, flat rate manual, service information bulletins and service training courses.



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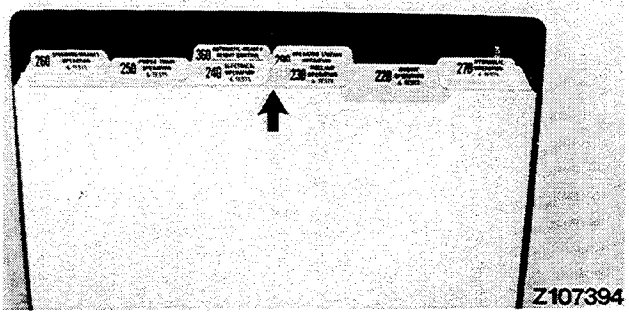
YELLOW TAB SECTIONS

Each yellow tab section contains information on:

- System Operation
- System Tests

System operation explains how the system and its components work.

System tests tell you how to test the system and diagnose the problem.



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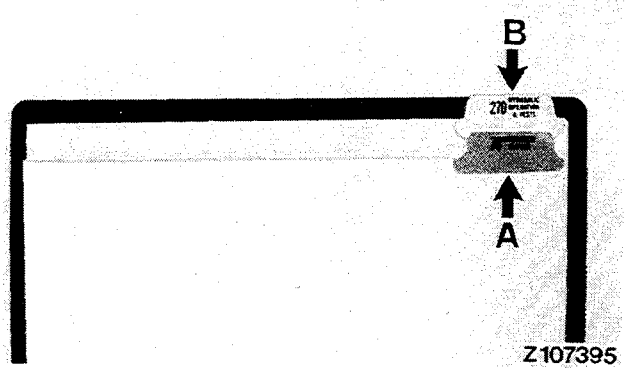
TAB POSITIONS

Each green tab and its corresponding yellow tab have the same tab position. This helps you to quickly locate the related information.

A-Green tab
- **Section 70**
- **Hydraulic Repair**

B-Yellow tab
- **Section 270**
- **Hydraulic Operation/Tests**



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THREE-STEP PROCEDURE

Use the following three-step procedure to locate the desired information.

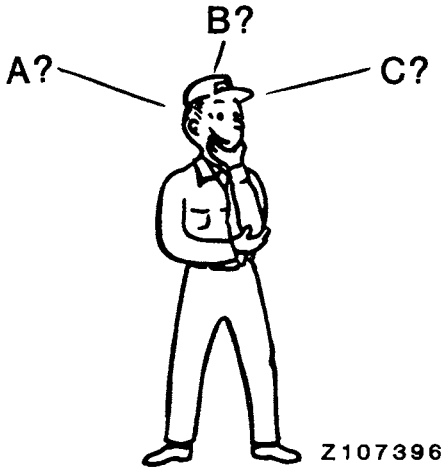
1. Determine the type of information you need: Is it?

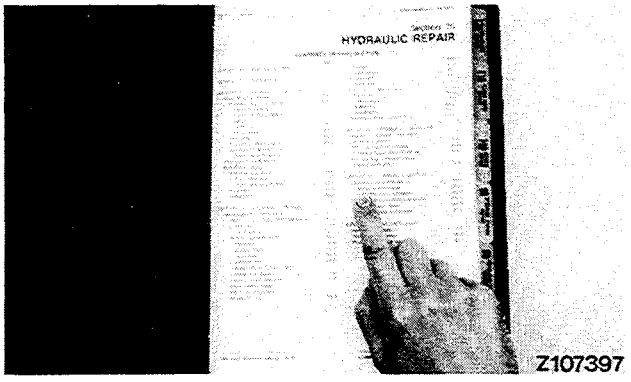
A – Repair
B – Operation
C – Tests

2. Go to the appropriate section tab:

Green – for Repair
Yellow – for Operation or Tests

3. Use the Table of Contents on the first page of each section to locate the information.





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Section 10
GENERAL

CONTENTS OF THIS SECTION

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SPECIFICATIONS

ENGINE

Make	JOHN DEERE
Model	6359 DZ 04 (old) 6359 DZ 004 (new)
Bore	106.5 mm (4.2 in.)
Stroke	110 mm (4.33 in.)
Horsepower: (gross, as per SAE J816b) (as per DIN 70020)	 117 hp 115 DIN-PS (84kW)
Number of Cylinders	6
Compression Ratio	16.8 to 1
Minimum Compression at Starter Cranking Speed (180 rpm)	 2400 kPa (24 bar; 342 psi)
Displacement	5883 cm^3 (359 cu.in.)
Flywheel Torque at 1300 rpm	370 Nm (272 ft-lb)
Full Load Speed	2500 rpm
Slow Idle speed Fast Idle Speed	1200 to 1300 rpm 2675 to 2725 rpm
Firing Order	1 – 5 – 3 – 6 – 2 – 4
Type of Lubrication	Gear Pump Force Feed
Valve Clearance (cold or hot): Intake Exhaust	 0.35 mm (0.014 in.) 0.45 mm (0.018 in.)
Make of Injection Pump	STANADYNE™ DB2 RE 12323
Injection Nozzles	STANADYNE™ Four-Hole

SPECI-ZI31005AE-301086

SPECIFICATIONS, CONTINUED

ELECTRICAL SYSTEM

Voltage	12 Volts
Alternator	65 Amps (Bosch)
Starting Motor	3 kW (4 hp) (Bosch)
Ether Starting Aid	Standard

CAPACITIES

Fuel Tank	300 l (80 U.S.gal.)
Engine Crankcase: (Incl. Oil Filter)	11 l (3 U.S.gal.)
Transmission Case	6.6 l (1-3/4 U.S.gal.)
Final Drives (Each)	2.1 l (4-1/2 U.S.pt)
Hydraulic System:	
a) Incl. Lines & Components	25 l (6.6 U.S.gal.)
b) Hydr. Oil Reservoir	20 l (5.3 U.S.gal.)
Hydr. Reel Drive System:	
a) Incl. Lines & Components	12 l (3.2 U.S.gal.)
b) Hydr. Oil Reservoir	10 l (2.6 U.S.gal.)
Cooling System	25 l (6.6 U.S.gal.)

SPECI-ZI31005BE-301086

SPECIFICATIONS, CONTINUED

COMBINE DIMENSIONS AND WEIGHT

Length w/o Header	7.18 m (23 ft 6 in.)	
Height	3.84 m (151 in.)	
Tread Width (Front):		
– (Standard)	223 to 248 cm (88 to 98 in.)	
– (w/ Axle spacers)	263 to 288 mm (104 to 114 in.)	
Wheel Base	372 cm (146 in.)	
Weight less Header	7 130 kg (15 719 lb)	
Turning Radius		
– (Standard)	5.58 m (220 in.)	
– (w/ Axle spacers)	5.93 m (233 in.)	

FAN

Type	Blower fan	
Drive Adjustment	V-Belt, infinitely variable, mechanical adjustment	
Fan Blade Diameter	580 mm	(22.5 in.)
Number of Fan Blades	5	
Speed Range	340 ±20 to 1060 ±60 rpm	
Adjustable Windboards	2	

SPECI-ZI31005CE-011085

SPECIFICATIONS, CONTINUED

GRAIN TANK

Capacity (Standard)	4400 l	(125 bu.)
Discharge Volume	3250 l/min. 540 l/min.	(92 bu./min.) (1.5 bu./sec)

TRANSMISSION

Standard	Automotive, 4 speeds forward, 1 speed reverse,
Ground Speed Drive	POSI-TORQ
Type	Infinitely variable in each gear

BRAKES

Foot Brakes	Hydraulically-actuated disk brakes, also acting on individual wheels
Parking Brake	Mechanical disk brakes

STEERING SYSTEM

Type	Hydrostatic steering

TIRE PRESSURES:

– Front Axle (23.1-26 10PR)	166 kPa	(1.66 bar; 24 psi)
– Rear Axle (10.0-16 8 PR)	310 kPa	(3.1 bar; 45 psi)

GROUND SPEEDS

(with 23.1-26 10 PR tires)

1st Gear	1.5 to 3.4 km/h (0.9 to 2.1 mph)
2nd Gear	3.0 to 6.9 km/h (1.9 to 4.3 mph)
3rd Gear	5.4 to 12.5 km/h (3.4 to 7.8 mph)
4th Gear	10.8 to 25.0 km/h (6.7 to 15.5 mph)
Reverse Gear	3.4 to 7.8 km/h (2.1 to 4.8 mph)

HEADER DRIVE SHAFT

Speed Ranges:

Inner Chain Position	568 rpm
Outer Chain Position	497 rpm

SPECI-ZI31005DE-011085

SPECIFICATIONS, CONTINUED

CYLINDER

Type	Rasp bar	
Width	1040 mm	(41 in.)
Diameter	610 mm	(24 in.)
Drive (Standard)	V-belt, hydr. adjustment,	POSI-TORQ
Speed Range	380 to 1100 rpm	
Number of Rasp Bars and Filler Plates	8	

CONCAVE

Number of Bars	14	
Width	1040 mm	(41 in.)
Stone Trap	Regular	
1st De-awning Plate	Spare part only	

BEATER

Type	Box cylinder	
Width	1040 mm	(41 in.)
Diameter	300 mm	(15 in.)
Speed	850 to 880 rpm	

SHAKER SYSTEM

Length	3.65 m	(144 in.)
Total Walker Area	3.80 m^2	(5890 sq-in.)
Total Separating Area	4.30 m^2	(6665 sq-in.)

CLEANING UNIT

Type	Reciprocating chaffer and sieves w/ blower fan	

CHAFFER W/ EXTENSION

Type (Standard)	Laminated sheet metal, adjustable – Deep Tooth Regular Tooth – Spare part only	
Width	97 cm	(38 in.)
Length (w/ Extension	197 cm	(77.5 in.)
Area (w/ Extension)	1.90 m^2	(2960 sq-in.)

SIEVES

Type (Standard)	Laminated sheet metal,adj.	
Width	97 cm	(38 in.)
Length	152 cm	(60 in.)
Area	1.58 m^2	2325 sq-in.)
Total Sieve Area	3.41 m^2	(5285 sq-in.)
Dividers:		
– On Chaffer	Standard installed	
– On Grain Return Pan	Standard installed	

SPECI-ZI31005EE-011085

SERIAL NUMBER PLATES

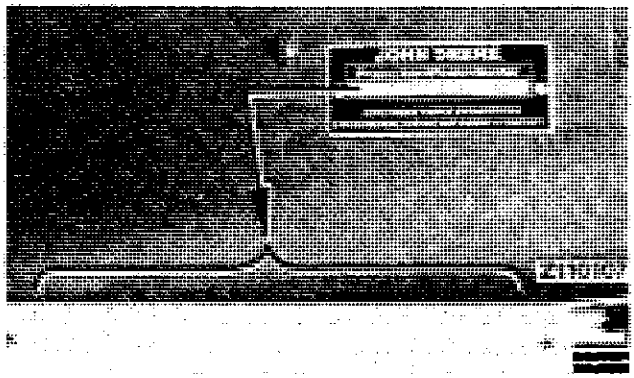
Serial numbers, identifying combine components or assemblies, are stamped on components or factory serial number plates. These numbers are required when ordering combine or component replacement parts. To ensure that you always have these numbers at hand, enter the appropriate serial numbers in the spaces provided in each illustration.

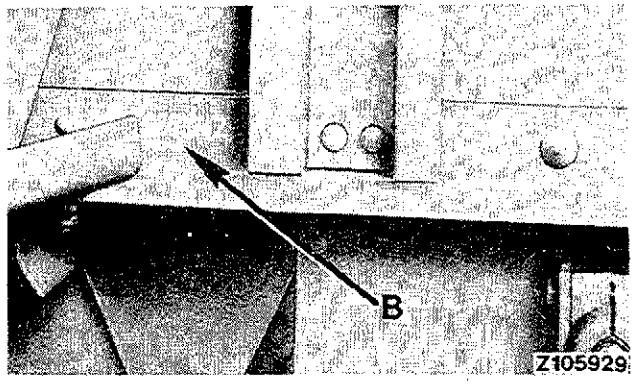
SEROM-1055AZE-311084

PRODUCT IDENTIFICATION NUMBER

The product identification number plate is located on the right-hand side of the operator's platform.

NOTE: In addition, the last seven digits of the product identification number are stamped on the right-hand frame (B) above the fan.





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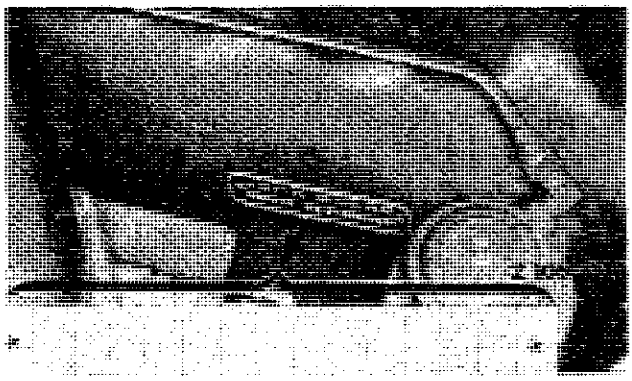
ENGINE SERIAL NUMBER

The engine serial number plate is located on the right-hand side of the engine block, near the mechanical fuel transfer pump.



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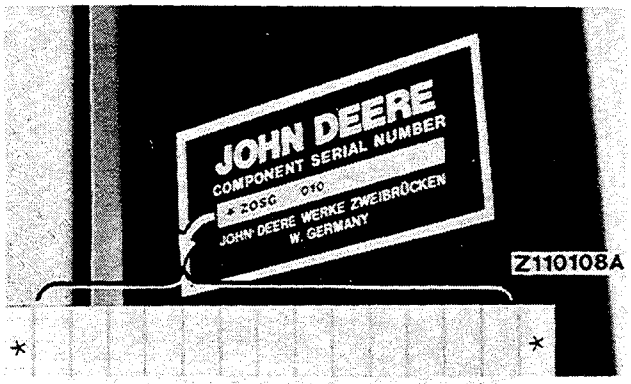
OPERATOR'S CAB SERIAL NUMBER

The operator's cab serial number plate is located on the inner side of the left-hand panel.

NOTE: The operator's cab serial number is identical with that of the air conditioning system.



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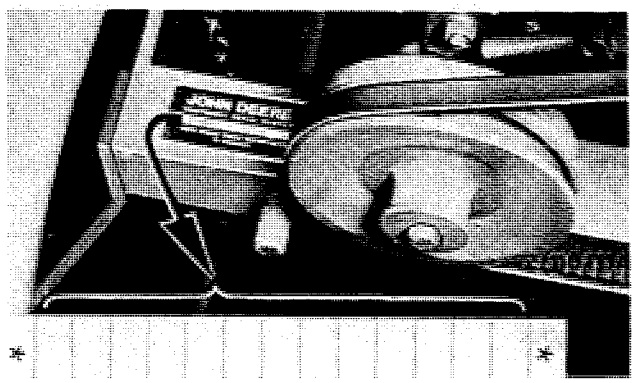
AIR CONDITIONING SYSTEM SERIAL NUMBER

The air conditioning system serial number plate is located on the right-hand rear corner of frame.

NOTE: The air conditioning system serial number is identical with that of the operator's cab.



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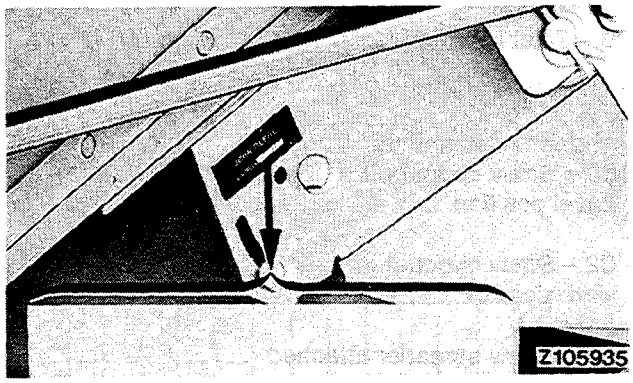
STRAW CHOPPER SERIAL NUMBER

The straw walker serial number plate is located on left-hand outer side of straw chopper.



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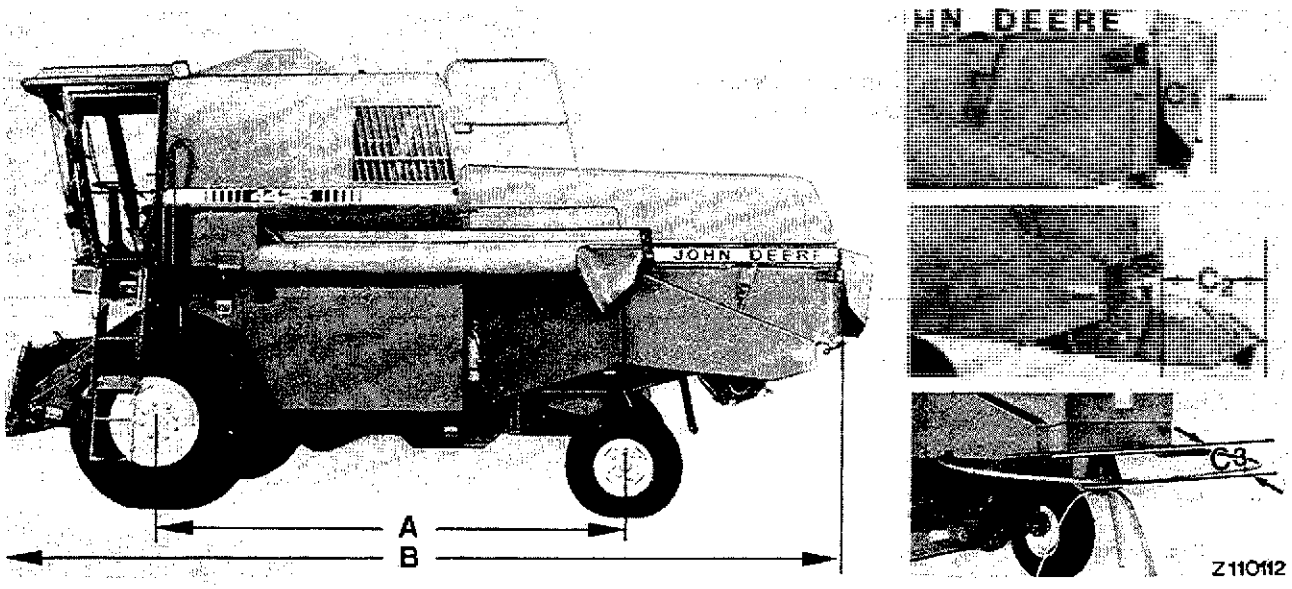
COMBINE DIMENSIONS



Lengths

Length without Header:	
A – Wheel Base	3.72 m (12 ft. 2 in.)
B – Total Length:	7.18 m (23 ft. 7 in.)
Add for Attachments:	
C1 – Straw chopper in travel position	+ 33 cm (+ 13 in.)
C2 – Straw chopper in work position	+ 48 cm (+ 19 in.)
C3 – Straw spreader attached	+ 66 cm (+ 26 in.)

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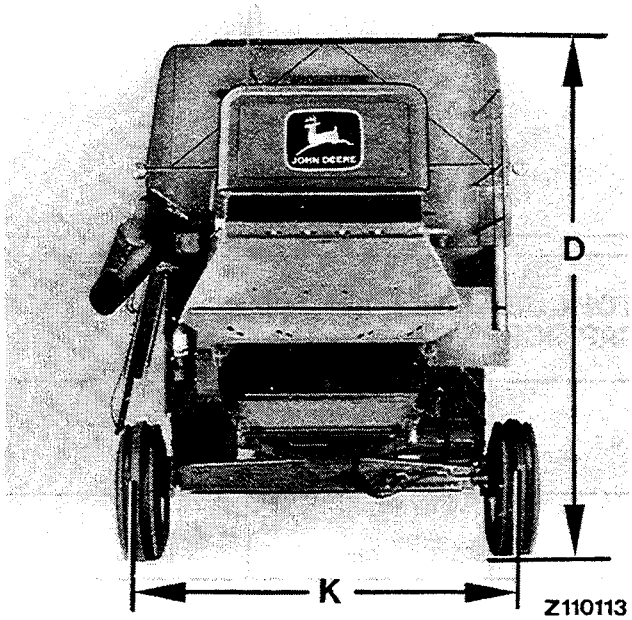
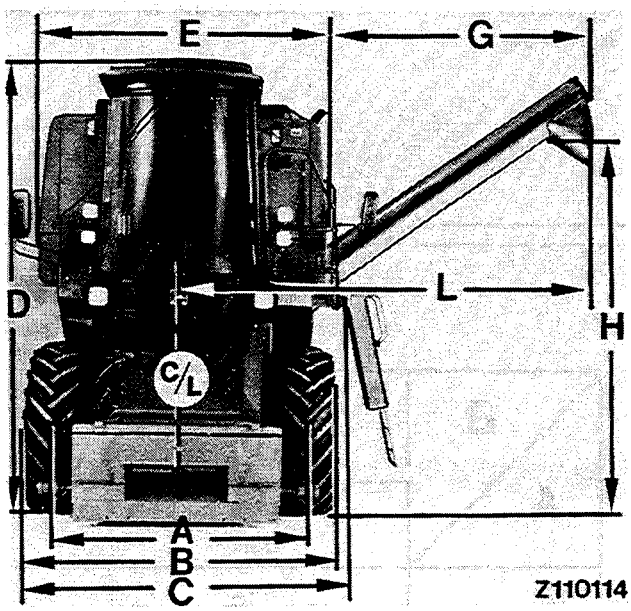
COMBINE DIMENSIONS – CONTINUED





Widths and Heights

Inner Rim Position:
A – 2234 mm ..... (88 in.)
B – 2779 mm ..... (110 in.)
C – 2929 mm ..... (115 in.)

Outer Rim Position:
A – 2480 mm ..... (98 in.)
B – 3025 mm ..... (119 in.)
C – 3052 mm ..... (120 in.)

Inner Rim Position w/ Axle Spacers:
A – 2638 mm ..... (104 in.)
B – 3183 mm ..... (125 in.)
C – 3236 mm ..... (127 in.)

Outer Rim Position w/ Axle Spacers:
A – 2884 mm ..... (114 in.)
B – 3429 mm ..... (135 in.)
C – 3514 mm ..... (138 in.)
6
D – 3.81 to 3.84 m. ..... (150 to 151 in.)
E – 2.69 m ..... (8 ft. 9 in.)
G – 2.92 m ..... (9 ft. 7 in.)
H – 3.60 m ..... (11 ft. 11 in.)
K – 2108 to 2821 mm ..... (83 to 111 in.)
in increments of 102 mm (4 in.)
L – 4.35 m ..... (14 ft. 3 in.)

Z110113,Z110114-ZI31005AE-011085